I claim:

1. A capacitor discharge system, comprising:

a first capacitor;

a second capacitor;

an inductor;

a discharge switching device; and

a charging device; wherein

said charging device places a first electric charge on said first capacitor during a first charging cycle,

said discharge switching device creates a first electrical path from said first capacitor to said second capacitor through said inductor during a first discharge cycle,

said charging device places a second electric charge on said second capacitor during a second charging cycle, and

said discharge switching device creates a second electrical path from said second capacitor to said first capacitor through said inductor during a second discharge cycle.

2. The capacitor discharge system of claim 1, further comprising a motor shaft that interacts with a magnetic field generated by the flow of electric current through said inductor during said first discharge cycle and said second discharge cycle to produce a rotating motion of said motor shaft.

3. The capacitor discharge system of claim 2, wherein said inductor is an electric motor phase winding.

4. The capacitor discharge system of claim 2, further comprising:

a capacitor drain circuit for removing a first residual electric charge from said second capacitor during said first charging cycle and for removing a second residual electric charge from said first capacitor during said second charging cycle.

5. The capacitor discharge system of claim 2, further comprising:

a shaft position sensor;

a switch control circuit; and

magnetic material mounted on said motor shaft; whereby said shaft position sensor detects movement of said magnetic material corresponding to said rotating motion of said motor shaft, said shaft position sensor transmits a signal to said switch control circuit, and said switch control circuit controls said charging device.

6. The capacitor discharge system of claim 4, further comprising:

a shaft position sensor;

a switch control circuit; and

magnetic material mounted on said motor shaft; whereby said shaft position sensor detects movement of said magnetic material corresponding to said rotating motion of said motor shaft, said shaft position sensor transmits a signal to said switch control circuit, and said switch control circuit controls said charging device and said capacitor drain circuit.

7. The capacitor discharge system of claim 2, wherein said discharge switching device is a mechanical switch.

8. The capacitor discharge system of claim 7, wherein said motor shaft includes a motor shaft gear, said mechanical switch includes a switch gear, and said switch gear is driven by said motor shaft gear during said rotating motion of said motor shaft to produce a rotating motion of said mechanical switch.

9. The capacitor discharge system of claim 5, wherein said discharge switching device is a solid-state switching device.

10. The capacitor discharge system of claim 9, wherein said solid-state switching device includes a plurality of silicon-controlled rectifiers.

11. A capacitor discharge system, comprising:

a first capacitor;

a second capacitor;

a first inductor;

a second inductor;

a discharge switching device; and

a charging device; wherein

said charging device places a first electric charge on said first capacitor during a first charging cycle,

said discharge switching device creates a first electrical path from said first capacitor to said second capacitor through said first inductor during a first discharge cycle,

said charging device places a second electric charge on said second capacitor during a second charging cycle, and

said discharge switching device creates a second electrical path from said second capacitor to said first capacitor through said second inductor during a second discharge cycle.

12. The capacitor discharge system of claim 11, further comprising a motor shaft that interacts with a magnetic field generated by a flow of electric current through said first inductor during said first discharge cycle and said second inductor during said second discharge cycle to produce a rotating motion of said motor shaft.

13. The capacitor discharge system of claim 12, wherein said first inductor and said second inductor are electric motor phase windings.

14. The capacitor discharge system of claim 13, further comprising a capacitor drain circuit for removing a first residual electric charge from said second capacitor during said first charging cycle and for removing a second residual charge from said first capacitor during said second charging cycle.

15. The capacitor discharge system of claim 14, further comprising:

a shaft position sensor;

a switch control circuit; and

magnetic material mounted on said motor shaft; whereby said shaft position sensor detects movement of said magnetic material corresponding to said rotating motion of said motor shaft, said shaft position sensor transmits a signal to said switch control circuit, and said switch control circuit directs the activity of said charging device and said capacitor drain circuit.

16. The capacitor discharge system of claim 15, wherein said discharge switching device is a solid-state switching device.

17. The capacitor discharge system of claim 16, wherein said solid-state switching device comprises a plurality of silicon-controlled rectifiers.

18. The capacitor discharge system of claim 17, wherein said plurality of silicon-controlled rectifiers is controlled by said switch-control circuit.

19. The capacitor discharge system of claim 10, wherein said plurality of silicon-controlled rectifiers is controlled by said switch-control circuit.

20. A method of creating an alternating magnetic field in an inductor comprising the steps of:

placing a first electric charge on a first capacitor;

creating a first electrical path between said first capacitor and a second capacitor through an inductor;

placing a second electric charge on said second capacitor; and

creating a second electrical path between said second capacitor and said first capacitor through said inductor.

21. The method of claim 20, further comprising the steps of:

removing a first residual charge from said second capacitor during said step of placing a first electric charge on said first capacitor; and

removing a second residual charge from said first capacitor during said step of placing a second electric charge on said second capacitor.

22. A method of creating an alternating magnetic field in a motor comprising the steps of:

placing a first electric charge on a first capacitor;

creating a first electrical path between said first capacitor and a second capacitor through a first inductor;

placing a second electric charge on said second capacitor; and

creating a second electrical path between said second capacitor and said first capacitor through a second inductor.

23. The method of claim 22, further comprising the steps of:

removing a first residual charge from said second capacitor during said step of placing a first electric charge on said first capacitor; and

removing a second residual charge from said first capacitor during said step of placing a second electric charge on said second capacitor.